

SGO4030 - Geographic Information Systems (GIS)

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Course content

A Geographic Information System (GIS) is a computer-based data processing tool used to manage, analyze, and present spatial information. This course is designed for students who are newcomers to the field of GIS and will introduce many of the basic concepts and steps necessary for completing GIS analysis within the social sciences. Topics covered in the course include a history of GIS; data collection and management; techniques for spatial analysis; map design and visualization; and uncertainty. The lectures will focus on fundamental GIS theory and concepts, while lab exercises will provide hands-on experience with ArcGIS, one of the leading GIS software programs. An individual project will integrate the knowledge from lectures and labs and provide students with the opportunity to use GIS to address a problem related to their thesis work.

Learning outcomes

Aims of knowledge

You will:

- Understand how GIS is different from other analytical approaches.
- Learn about common file formats, GIS data sources, and the integration of other data types including those not explicitly formatted for GIS.
- Receive guidance on developing research questions that can be explored through GIS.
- Gain an overview of various analysis techniques and how they might be applied within the social sciences.
- Identify common errors (and how to avoid them) throughout the data collection and analysis process.

Aims of Learning

You will:

- Develop a spatial question related to your own interests in the social sciences.
- Find, collect and organize data for use in a GIS.
- Plan and carry out your own GIS analysis.

Critical approach

You will:

- Explain how GIS and social science research can be effectively integrated.
- Demonstrate the use of GIS as a social science research method.
- Critically discuss issues related to data reliability and validity.

Admission

Admission to this course is done on the basis of specific rules. For further information, please read: [Rangeringsregler ved SV-fakultetet](#)

"Privatister" cannot take this course.

Prerequisites

Recommended prior knowledge

Basic computer skills are the foundation for success in this course. Students are expected to work comfortably within the Windows XP interface and manage files and folders in Windows Explorer. Basic tasks using Excel are part of most lab exercises, for example: entering data and performing simple mathematical operations. Students with poor computer skills will have difficulty following the course and extra assistance will not be available.

Overlap

Although final examination in this course is different, it shares the same lectures and lab exercises with [SGO1910 - Geographic Information Systems \(GIS\)](#). If you have taken SGO1910, you cannot take this course.

Teaching

This course will be taught at The University of Oslo, Blindern campus. Other locations in Oslo may be used.

The lectures and seminars will take place in English. The course is part of the regular course provision at the Faculty of Social Science and is designed for both Norwegian students and students on exchange programmes or bilateral agreements.

Teaching is held mainly during daytime and is organized as a combination of lectures and seminars. There will be ten 2-hour lectures and 12 seminars throughout the semester, as specified in the detailed teaching plan.

Teaching takes place throughout the semester.

Exam information

The Faculty of Social Science is responsible for the exam(s), and exam(s) are/is normally held at The University of Oslo, Blindern campus. Other locations in Oslo may be used.

There are two compulsory activities in the course: a 50 point mid-term quiz and a portfolio of eight completed lab exercises. Students who have failed to complete the compulsory activities cannot take the exam. Completed and approved compulsory work is valid until the course is no longer offered.

Students will submit an individual essay that will count as 30% of the final grade. A 3-hour written exam will count as 70% of the final grade. Exam questions will be provided in English only.

Language of examination

The students can choose whether they will do the exams in English or Norwegian. This must be done when the student registers for the examination.

Assessment and grading

Examination results are available in StudentWeb within three weeks after the examination-date, if no other information is given on the Webpage for the current semester.

Course grades are awarded on a descending scale using alphabetic grades from A to E for passes and F for fail.

An external auditor regularly evaluates the academic quality of the course, including the form of exam used on the course.

Lodging a formal complaint

[Routines for complaints about exam grades and reason for grading at the Department for Sociology and Human Geography](#)

Possibility of make-up exams and re-takes

Students who due to illness or other valid reason of absence were unable to sit for their final exams may apply for participation in make-up exams. Make-up exams are arranged either later in the same semester or early in the semester following the exam in question. Documentation of

valid reasons for absence from the regular exam must be submitted upon application to participate in make-up exams.

Students who have failed an exam and students who wish to re-take an exam to achieve a better grade may not participate in make-up exams, but must re-take the exam when it is regularly scheduled.

Withdrawing from exams and limits on re-takes

A student can sit for this exam up to 3 times. If a student wishes to withdraw from the exam, s/he must do this in StudentWeb at least two weeks prior to the first day of the exam. Failure to do so will be counted as one of the three opportunities to sit for the exam.

Exam options for students with special needs

Application-forms for [special examination arrangements](#) on school-exams may be sent to The Faculty of Social Science. Applications for special examination arrangements on other exams may be sent to the institute who organise the course.

Evaluation of this course

This course is evaluated half way through every semester and every four year the course undergoes a thorough evaluation.

An external auditor regularly evaluates the academic quality of the course and he/she makes a written report every year.

Contact information

Dept. of Sociology and Human Geography

Visiting address:

Harriet Holters hus, 2 etg.

Postal address:

Boks 1096 Blindern
0317 Oslo

Visiting hours:

Kl. 12-15 (I tiden 15. mai til 14. september stenger resepsjonen 14.30.)

Phone: 22 85 52 57

Fax: 22 85 52 53

E-mail: ekspedisjonen@sosiologi.uio.no

Web: <http://www.iss.uio.no>

